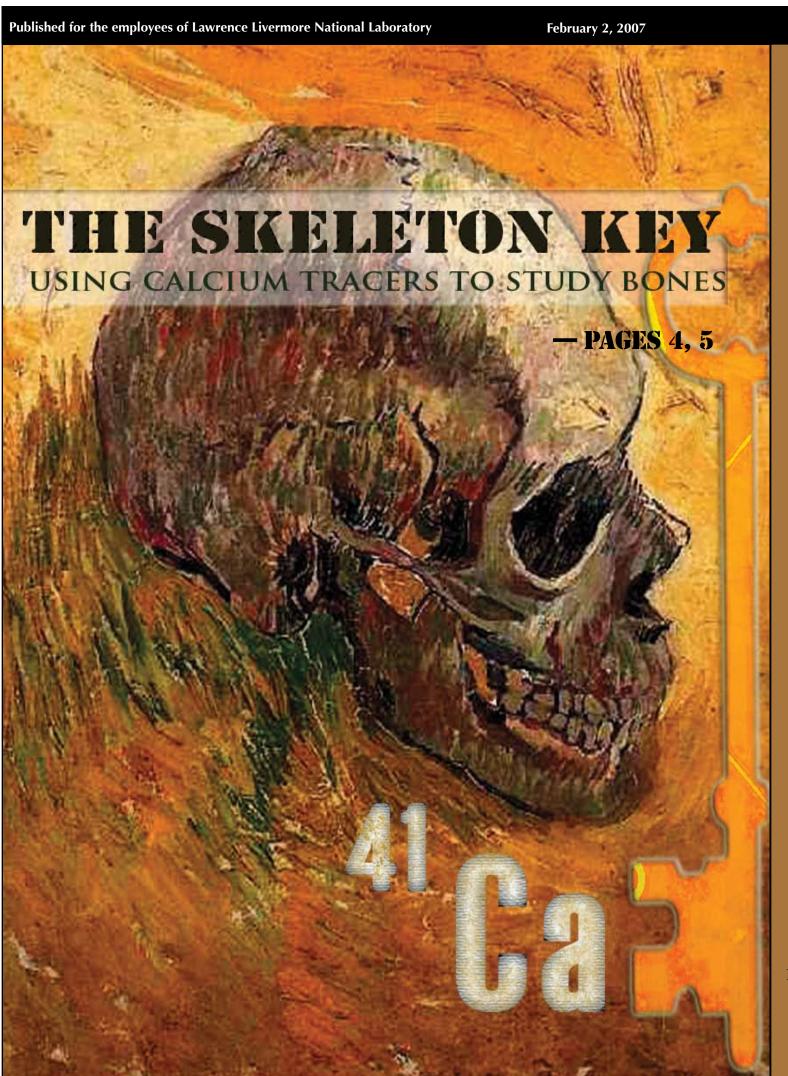
NEWSLINE



What's **INSIDE**

Vol. 32, No. 3



A NANO APPROACH TO UNDERSTANDING CELL FUNCTION

Page 2



ENERGY SAVINGS TANKS TO NEW FUEL STATION

Page 3



Expanding their horizons in math and science

PAGE 8

NEWSLINE February 2, 2007 February 2, 2007 NEWSLINE 3

LAB NEWS

DDLS describes challenges, promise of nanobiotechnology

The challenges and promise of using synthetic nanomaterials to better understand how living cells function were described by a leading scientist in the field during Wednesday's Director's Distinguished Lecturer Series talk in the Bldg. 123

"Nature operates at nanoscale (one-billionth of a meter) dimensions," said Carolyn Bertozzi, director of Lawrence Berkeley National Laboratory's Molecular Foundry and a professor of chemistry and molecular and cell biology at UC Berkeley.

The Molecular Foundry, which opened in March of last year, is the first of five Department of Energy nanotechnology research centers. Berttozzi said the center provides researchers with state-ofthe-art instruments and expertise in synthesizing and describing the properties of nanomaterials. She described how her own research uses carbon nanotubes and "quantum dots" to study how living cells interact and function.

Bertozzi said carbon nanotubes — long, thin cylinders of carbon about 50,000 times thinner than a human hair — can be used as sensors when bound to the surface of cells, or as scaffolding to fashion engineered tissues. The problem, however, is that nanotubes are toxic to living cells.

To solve that problem, Bertozzi and her colleagues coated the nanotubes with a substance that mimics the properties of mucin, a sugar-coated protein that appears naturally on cell surfaces. "As long as there are mucin mimics on the surface of the nanotube," she said, the test cells remained healthy.

Another challenge was finding a way to inject fluorescent nanocrystals, known as "quantum dots," into bacterial cells and other small cells without damaging them. The



JACQUELINE McBride/Newsline

quantum dots can be used as probes or dyes to study cell function, but they can't penetrate the cell's outer plasma membrane on their own. Bertozzi's team found that they could use carbon nanotubes to penetrate the cell membrane and inject nanoparticles with "no ill effects" on the cells.

Among the medical applications of Bertozzi's research to date are tracking changes in the surfaces of cancer cells, identifying candidate drug targets in tuberculosis bacteria, and developing new nanomaterials that mimic bone tissue.

Bertozzi said nanoscience, which integrates physics, chemistry, biology and engineering, is leading to "revolutions in materials science, medicine, information technology and energy.'

DDLS speaker Carolyn Bertozzi describes how carbon

nanotubes can lead to a better understaning of how

living cells function. Below: 3D model of three types

of single-walled carbon nanotubes.

COURTESY OF WIKIPEDIA

Author Graham Allison offers steps for preventing nuclear terrorism

By Stephen Wampler Newsline staff writer

The United States needs to undertake new initiatives and speed up current efforts in order to prevent nuclear terrorism, a leading national expert told Laboratory employees last week.

Harvard professor Graham Allison, director of the Belfer Center for Science and International Affairs, offered his views during a Jan. 18 Nonproliferation, Homeland and International Security (NHI) colloquium in the Bldg 132 auditorium.

The author of the 2004 book "Nuclear Terrorism: The Ultimate Preventable Catastrophe," Allison asserted that current efforts to stop nuclear terrorism are insufficient.

"If the United States and other governments just keep doing what they are doing today, a nuclear terrorist attack in a major city is more likely than not in the decade ahead," Allison stated.

"There is, however, a feasible, affordable agenda of actions that if taken would shrink the likelihood of nuclear terrorism to zero. Some of those actions have not been taken at all; some are not being taken fast enough.'

In his presentation, Allison, a former assistant secretary of d efense in the Clinton administration, outlined a strategy to stop nuclear terrorism based on what he called a "Doctrine of Three No's" — no loose nukes, no new nascent nukes and no new nuclear weapons states.

Under his no loose nukes plank, Allison called for securing all nuclear weapons and weapons-usable material on the fastest possible timetable to a new "gold standard." He cited Russia, Pakistan and Belarus as among the most urgent challenges.

"Human beings know how to lock up things we don't want people to steal. How much gold has the U.S. lost from Fort Knox?"

For no new nascent nukes, Allison explained that this means preventing new national capabilities to enrich uranium or reprocess plutonium. He singled out Iran as the most pressing concern.

The last plank of no new nuclear weapons states, Allison said, draws a line under the current 8 ½ nuclear powers and clearly states: "Stop. No more." The largest area of concern in this category is North Korea.

"Could you imagine a government selling a nuclear weapon to terrorists? If that were to happen, which government (would do it)? In the business, North Korea is called 'Missiles-'R'-Us.' They have missiles for sale

and people have money to buy them."

In recent years, according to Allison, North Korea has sold and delivered missiles to Iraq, Pakistan, Egypt, Syria and Yemen, as well as reportedly selling missiles to Iran in 2005.

In his view, the deterrence of nuclear terrorism requires three principal items — clarity (red lines), capability (nuclear forensics to attribute the perpetrator) and credibility (the probability of

During his presentation, he paid tribute to LLNL's work in nuclear forensics and other efforts to combat terrorism.

"At the outset, let me say how much I as a citizen appreciate the work of Livermore and the other national labs. You're now trying to bring together the competencies that only the national labs can do to address this set of problems.'

When asked by an employee about efforts to secure nuclear materials and weapons in Russia, Allison said, "I've been very impressed that securing nuclear weapons from naval sites has been achieved two years early."

There is a need, Allison continued, to give states incentives to secure nuclear weapons and materials to the maximum extent possible.

SCIENCE NEWS

Fuel station to make Lab a state flex fuel vehicle leader

The new E85 fueling station soon to be installed at the Laboratory will provide LLNL with the infrastructure to become one of the largest consumers of E85-fueled vehicles in California.

With 281 Flex-Fuel vehicles currently in its inventory, LLNL perhaps will own the largest fleet of these vehicles in the state, according to Pam Smith, associate director (acting) Laboratory Services. "This project is good for not only the environment, but it's also a big win for the Lab, the state of California, and the DOE/NNSA," Smith said.

An Executive Order requires the federal fleet, including the Department of Energy, NNSA, and the Laboratory, to reduce vehicular petroleum fuel use by 20 percent by fiscal year 2008. The calculation is based upon

the fuel used in FY 1999. E.O.13149, "Greening the Government Through Federal Fleet and Transportation Efficiency," was signed April 21, 2000. Almost four years later, in March 2004, the date was extended by DOE to FY 2008.

With an increased national focus on energy, President Bush issued new Executive Order 13423, "Strengthening Federal Environmental, Energy, and Transportation Management" on Jan. 26. The order covers any agency that operates a fleet of at least 20 motor vehicles. The measure seeks to ensure that the agency, relative to its baseline for fiscal year 2005, reduce the fleet's total petroleum products consumption by 2 percent annually through the end of FY 2015, and also increase the total non-



The Laboratory is installing a new E85 (an alcohol-fuel mixture that typically contains up to 85 percent denatured fuel ethanol and gasoline) station.

petroleum based fuel component by 10 percent

With the word "energy" in its name, DOE has a unique responsibility to provide direction, as well as serve as a role model for other government departments, in meeting this requirement. As a federal agency, NNSA/LLNL is required to meet Executive Order 13149. This order seeks to ensure that the federal government demonstrates leadership in the reduction of petroleum consumption through improvements in fleet-fuel efficiency, as well as in the use of alternative-fuel vehicles and alternative

According to Fleet Superintendent Mishell Pendleton: "During the past eight years, the Laboratory has strived to reduce petroleum fuel

consumption by identifying opportunities for using alternative fuels, while concurrently increasing the number of alternative-fuel vehicles in the Lab's vehicle count."

She said that each year Fleet Management has been replacing conventional fuel vehicles with new AFV, such as "E85s." This notation refers to an alcohol-fuel mixture that typically contains up to 85 percent denatured fuel ethanol and gasoline, or other hydrocarbon. Currently, the Lab has 281 of these E85 Flex Fuel Vehicles, or slightly more than one-quarter of its fleet.

Smith explained that installation of the fueling station would help the Lab meet Presidential Executive Order 13423 by significantly reducing petroleum use.

The E85 Fueling Station

project, which Pendleton will manage, will design and construct a vehicle fueling station to dispense 85 percent ethanol. Facilities will include a 12,000 gallon underground, double-walled tank; two duplex fuel dispensers (four pumps), card reader station, and canopy.

Scheduled for an May 2007 grand opening, the station will supply fuel to all E85 users at the Lab's main site in Livermore and will put the Lab in a better position to meet the goals of Executive Order 13423, by reducing its conventional fuel use.

"Fleet Management soon will begin an employee awareness and education communication plan in preparation for the fuel station opening,"

Security graduation



On Jan. 19, in the Bldg. 453 auditorium. the Protective Force Division Training Group graduated a class of Security police officers. Their courses, which began Nov. 6, included classroom and field training on material control and accountability, information security, physical security, human and public relations, basic communications, bomb threat recognition, bomb searching, basic individual tactics, team tactics, firearms, impact weapons, self defense, vehicle stops, emergency vehicle operations and terrorist threats. Look for the fresh uniforms, smiling faces and gray badges around the site.

4 NEWSLINE 5

JACQUELINE McBride/Newsline

CAMS researcher Darren Hillegonds carries the sample holder that is used in the large accelerator mass spectrometer in the background.

New tracer cuts to the bone of osteoporosis

By Anne M. Stark Newsline staff writer

CAMS researcher Darren Hillegonds may just be hailed as a patron saint among senior citizens.

Hillegonds, with recently retired colleague John Vogel of LLNL's Center for Accelerator Mass Spectrometry, and researchers at the Laboratory of Human Nutrition, the Laboratory of Particle Physics, both in Zurich; the Institute of Physics in Germany; the Department of General Internal Medicine at University Hostpital in Bern, Switzerland; and the European Commission Joint Research Centre in Belgium, recently published key results on a technique that could be used to help prevent and treat osteoporosis.

An estimated 44 million Americans or 55 percent of people 50 years and older are at risk of developing the disease, according to the National Osteoporosis Foundation. In the United States, 10 million people already have the disease and almost 34 million more are estimated to have low bone mass, a precursor to the disease.

The new method labels bone using the calcium isotope ⁴¹Ca, a long-lived radiotracer, to track how the body metabolizes calcium (Ca) and how much remains in the bone by observing how much of the tracer is lost through urine.

Once the bones are labeled, changes in the systematic urinary ⁴¹Ca excretion directly reflect changes in bone calcium metabolism.

Osteoporosis is a disease characterized by low bone mass and structural deterioration of bone tissue, leading to an increased susceptibility to fractures. Typically found in older adults, it has become a major public health concern because of the increase in life expectancy of three years per decade over the last century. In older adults, bone becomes brittle and bone balance lessens making it more likely to fracture bones such as spine, hip and wright

In the United States alone the cost of hip fractures is approximately \$7 billion annually, and hip fractures are the second most common cause of admission to nursing homes. Many elderly

patients who break a hip face a broad array of problems that transcend the treatment of the injury itself. Medical treatment for hip fracture can lead to complications in older people depending on their health status. The National Osteoporosis Foundation notes that 80 percent of women older than 75 years preferred death to a bad hip fracture resulting in nursing home placement. Nearly, 20 percent of all hip fracture patients do not survive longer than one year.

Hillegonds' work has recently won the Best Paper Award for 2006 from *Analytical and Bioanalytical Chemistry*. The award includes a monetary prize and the article will receive prominence on a future *Analytical and Bioanalytical Chemistry* cover.

Though there are several other methods for testing calcium metabolism in bones, none are quite as precise as accelerator mass spectrometry, which is an exceptionally sensitive technique for measuring the concentrations of specific isotopes in small samples. In this study, ⁴¹Ca — virtually stable with a half-life of 104,000 years — was detected at the ultratrace level.

"With the average age of adults exponentially growing, AMS calcium detection could be a huge benefit to the older population," Hillegonds said. "With even a small amount of the tracer, we can sensitively monitor key aspects of bone health for a lifetime."

In order to prevent and better treat people with osteoporosis, Hillegonds and colleagues used AMS to monitor bone calcium in 25 healthy women, at least five years postmenopausal, who were recruited from a program for elderly citizens at the University of Zurich. The testing lasted about 700 days.

Although the calcium loss through urine varied strongly between days, it did not affect the urinary ⁴¹Ca/Ca isotope ratio significantly. Calcium in plasma is effectively reabsorbed in the kidneys and only a small fraction passes through the kidneys (less than 1 percent). Because the human body cannot distinguish between calcium isotopes, the researchers assumed that equal fractions of calcium and ⁴¹Ca transfer from plasma to urine.

It takes about 150-250 days for the isotope to be fully

incorporated into the bone matrix. From that time onward, researchers can simply track the urinary ⁴¹Ca/Ca isotope ratio over time to assess how much calcium the bone is losing. Furthermore, mathematical modeling of ⁴¹Ca fall off following the dose could provide vastly improved basic understanding of bone remodeling in diseased individuals, Hillegonds said.

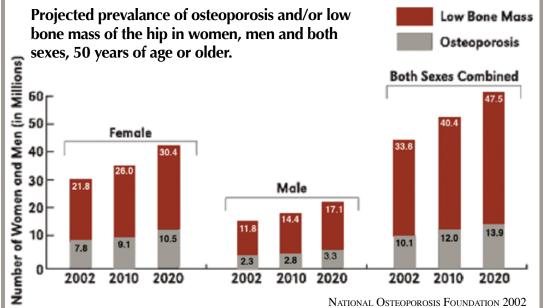
"The technique could be used to evaluate the influence of diet and lifestyle on bone health and to develop better strategies for prevention and personalized management of osteoporosis and a host of other diseases that impact the skeleton." Hillegonds said.

This research was a collaborative study that led to the lead author's (Eberhard Denk of the Laboratory of Human Nutrition) Ph.D thesis.

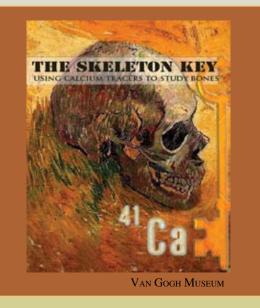
OSTEOPOROSIS AT A GLANCE

- The biggest problem created by bone disease, especially osteoporosis, is fractures, which may be the first visible sign of disease in patients. Each year an estimated 1.5 million individuals suffer a fracture due to bone disease.
- The risk of a fracture increases with age and is greatest in women. Roughly four in ten white women age 50 or older in the United States will experience a hip, spine or wrist fracture sometime during the remainder of their lives. Looking ahead, the lifetime risk of fractures will increase for all ethnic groups as people live longer.
- Osteoporosis is the most common cause of fractures. Roughly 10 million individuals over age 50 in the United States have osteoporosis of the hip. An additional 33.6 million individuals over age 50 have low bone mass or "osteopenia" of the hip and thus are at risk of osteoporosis and its potential complications later in life.
- Due primarily to the aging of the population, the prevalence of osteoporosis and low bone mass is expected to increase. By 2020, one in two Americans over age 50 is expected to have or be at risk of developing osteoporosis of the hip; even more will be at risk of developing osteoporosis at any site in the skeleton.
- Osteoporosis does not affect everyone to the same degree. Women, especially older women, are more likely to get the disease than are men. An estimated 35 percent of postmenopausal white women have osteoporosis of the hip, spine or distal forearm. Men, especially elderly men, can and do get osteoporosis.
- The age-adjusted prevalence of osteoporosis and the rate of hip fracture are lower in black women than in white women in the United States. The prevalence of osteoporosis in hispanic and asian women is similar to that found in white women, and the incidence of hip fractures among hispanic women in California appears to be on the rise. However, it is important to remember that osteoporosis is a real risk for any aging man or woman.
- Much less is known about the frequency of most other skeletal diseases, due in part to underdiagnosis and underreporting.

SOURCE: SURGEON GENERAL'S REPORT: BONE HEALTH AND OSTEOPOROSIS/ U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES. FOR MORE INFORMATION, GO TO HTTP://www.surgeongeneral.gov/library/bonehealth/chapter 4.html



labeling phase slow and stable 41Ca release faster 41Ca release with disease



Accelerator mass spectrometry can measure a calcium-41 tracer to track small changes in skeletal calcium. After the tracer mixes with the body's calcium, calcium levels stabilize, providing a baseline. Tracer concentration can then be measured over time. A sudden increase in the amount of calcium-41 released from bone (yellow line) signals the onset and progression of bone disesase.

Due to the high quantity of ads and space limitations, these want ads have been abbreviated. For the complete ad listings, refer to the internal Website: http://www-r.llnl.gov/pao/news/ wantads.html or for the latest pdf download and retiree information, see the external Website: http://www.llnl.gov/pao/employee/.

Date of ads: Approx. Jan. 23 to Jan. 30. Ads now appear on the Web for seven days.

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1995 3/4 suburban, 4,000 .. but if you have cash the first \$3,800 take it! 209-529-1961

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MISCELLANEOUS

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Batman Slin N Slide Batman Slin N Slide

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lewelry Organizer Trays-\$36. Originally \$95 (\$19 each). Located in Livermore--case only please. 925-640-5469 Men's Diamond Ring, Stamped "14K"

Yellow Gold Diamond Ring. Ring tapers Value: \$12,774.00 – Appraisal review available upon request. 510-792-1538 Queen Size Bedding set. Like New \$65,

info 209-845-2584 in ground automatic Paid \$950, will sell for \$500 firm. 925-625-7972 Umbrella Cocatoo for sale. \$2000 includes

Rod Stewart Tickets March 15, 2007, 8:00 P.M. at the HP Pavillion in San Jose. The cost for both is \$284.80. 925.516.6244

Statuary. Two stone-line benches (56" long by 15" deep) with scroll design on legs. \$125 each. 925-443-7082

trained, (209) 835-2324

feet by 3 feet. 925-706-2088

emale cat. 925-980-3035

Wanted: Medium sized dog crate, about 2

White cat-one blue eye, one green ey

for adoption. OCEANIA is a sweet white

RECREATION EQUIPMENT

airwalk snowboard boots. Size 8. Used

Barbell set w/ contoured rubber grips. Each barbell is adjustable from 5 to 40 lbs

Whole set for \$20 obo. 925-294-5783

received as gift, maybe 20 hours on engin \$475.00 or BO. 925 321-4543

Horseback Riding Boots, Durango brand,

Flexiciser. Original \$3,000 - Best Offer 510-653-1017

Black Camper shell for Chevy 1988-on

stepside narrow box and White Camper shell for Chevy 1988-on short bed. \$300.00

Outlaw Sportstuff 52 inch triangular tube.

used to steer yourself across the wake. \$35.

157cm wishes to find a home. 415-519-

boxes for Gold Prospecting, great condition

Sluice Box. 2 - 3 foot aluminium Sluice

Smith-type self spotting weight machine

The Ironmaster 500 is the perfect home

gym for those wanting a free weight style

Weight bench and weights. Heavy duty

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barbell, dumbbells. All for \$75. 925-417

Weight Set and Bench, Joe Weider Weight

Asking \$200 for all. 925-447-5904

brand dumbbells \$40. 925-640-5469

dition. \$50. 510-653-1017

Weights/Barbell/Dumbbells: One Ivanko

d barbell \$80. One pair of Ivanko

women"s snowboard boots, Airwalk, Size

Western-style, black leather, size 6 1/2, girls, \$40. 925/513-4767

Go - Ped Like new mint condition

Hospital grade powered exercise

each or B/O 925 321-4543

Double webbing foam handle

\$25 each, call (209)244-8241

orkout 925-373-9004

925-648-0671

three times, \$50, 925-600-1813

Storage Pedestal - \$35. Two-drawer metal and glass storage pedestal with seat cushion top. 925-640-5469 Suede Sandals - \$45. Women's Spring Step

(Sky). Nubuck leather upper, Euro size 3 which is 6/12 to 7. Heel Height: 1 1/4". 925-640-5469 Two Black Iron Plate Holders 2- Black roo

iron plate holders. Holds 2 plates on each \$10 all. 925-354-3196 Large collection of Vintage Fisher Price Little People toys play sets, 209-914-2132

Wheelchair and Wheelchair Ramps, Tracer EX wheelchair \$125 (like new!), 12' potable wheelchair ramp \$150, 3' wheelchair ramp \$50, Invacare walker \$20 (new!) 925-

Yamaha 300ISE generator. Paid 2K for it, will sell for 1700.00 OBO, A209-321-1506 Yard sale, Multi Family Yard Sale, Feb. 10th Sat., 9-4 Sun. 9-12. 42 Craig at Highland in Piedmont. 510-601-8111

MOTORCYCLES

1997 Harley Davidson Fat Boy, Custom paint, FatBob 5G. Tanks, Vance and Hines long shots, \$17,500 OBO. 209-834-8689 2000 R1. 2000 R1 22,000mi, \$6,500,

2001 V Star 1100 Classic, 6500 miles Two tone Black/Blue paint, extra crome, \$4995.00 OBO 209-499-3793

2001 Warrior 350 ATV, Asking \$ 2500. Selling to get a raptor 660/700. 209-368-4286 86 Honda 250 Odesv. 86 Honda 250cc

small, one person sand/dune buggy. \$1600. Also I have a 97 Yamaha YZ125, excellent shape \$1500. 209-612-0231 Sportster 883 2000 883 HD. Lowered

liles: 10,500 Asking: \$5,400. 209-

MUSICAL INSTRUMENTS 1964 Fender laguar, candy red, all original.

no solder broken, minor buckle wear, \$3000. 209-599-4216 Fender Vibro King, Blond Vibro King original tubes, low mileage, excelle condition. \$1500. 209-836-4361

Piano - Baby Grand. Baldwin 5'8" Original Black Ebony Satin Finish in excellent condition. \$11K (firm). 925.371.1854

PETS

2 1/2 vr old Black Female Adorable Lan

2 rabbits with cage. 925.292.0172

3 legged young male cat for adoption.

with 3 legs. He is missing a back leg, but

orse & cutting). \$5,000. 209-968-

Speedy is a special boy who was born

it does not seem to slow him down

Very quiet gelding (reining, working

Canary, Free Canary (orange color) with

Free rabbit. Netherland dwarf rabbit, about

Quarter Horse for Sale. 7 year Old Quarter

South African Boerboel puppies. Big healthy

pups avalible the end of Feb. call for more

7 years old, black and white, with plastic

cage and supplies. Call 925-606-6155

Horse mare, Asking \$4000. (925)381-

Cat for Adoption. Boston is outgoing, very friendly and loving. 925-980-3035

El Cerrito - Berkeley Vannool, Our vannool has openings for full time or casual rider M-F 7:45 am to 4:30 pm work schedule Call x3-7995. 510-524-5769

RIDESHARING

arrives LLNL at 8 a.m. Departs LLNL at 4:55 p.m. 510.654.6497 Modesto vanpool opening. Modesto vanpool has full time opening. Regular hours - leaves Home Depot at 6:35 am

Kensington/Berkeley/Oakland Vanpool.

Vanpool leaves Kensington at 7 a.m. and

Leaves LLNL at 4:45 pm. 209-576-0217 Modesto-Ripon Vanpool, Vanpool - Leaves from Briggsmore and Rose, Modesto @ 6:30, Ripon, Main and Industrial @ 6:50. 8:00 Am to 4:30/4:45 shift. (209) 544-641

or X 2-2727 SHARED HOUSING

2 rooms to rent. .6 mi from LLNL West Gate. 2 rooms to rent in a 2 bedroom, 2 pathroom house \$725 for master bedroom, \$650 for 2nd bedroom w private bath. 925-447-3133

Danville Room for Rent. Room is approximate 12x12. Townhouse located ated community. Prefer female. 968-1407 vermore room for rent. No pets. Kitchen and living rm privileges. Utils. incl. for \$600/mo. 925-454-9329

Monday, Tuesday and Wednesday nights 209-295-4266 Mountain House room, Apartment-lik

Looking for room to rent in tracy 3 night

week. I am looking for a place to stay

RETIREES' CORNER

In November 2006, Harry Galles (Environmental Protection Department, 2001) and Linda Nidever -Galles (Energy and Environment Directorate, 2003) visited South Africa. The area in the south around Capetown is stunningly beautiful, low mountain ranges with vineyards tucked in the valleys and a stunning coastline. Capetown is a beautiful city reminiscent of San Francisco, spreading out from the base of Table Mountain — which offers wonderful views of the surrounding area including Robbin Island where Nelson Mandella was imprisoned for a

quarter century. The climate is similar to the Bay Area but the vinevards/wineries are very large, averaging about 200 acres. The Galles stayed on lovely vineyard estates around the Cape, and then headed north to Kruger National Park, which is surrounded by private game reserves.

Game drives are interesting and exciting and were the highlight of their trip as they came within 20 to 30 feet of the animals. They stayed at Tanda Tula in the Timbivati preserve where they saw lions, spotted leopards, elephants, white rhinos, hippos, giraffes, cape buffalos, numerous types of antelopes, mongoose, monkeys and many varieties of beautiful birds.

It is a 24-hour trip to Johannesburg from San Francisco. Security is a

concern in the big cities where unemployment is 40 percent. The economic disparity is great between ethnic groups. People are generally very nice, but you must be watchful when vou are out on the street and should never travel alone. Had they known how much they would enjoy the area, they would have stayed another week. (For unedited version, go to the webpage at www. Ilnlretirees.org.) The February Retirees'

Luncheon will be held Wednesday, Feb. 21, at the Elks Lodge in Livermore. The speaker will be Kevin Roberts. economic development director for the City of Livermore. The title of his talk is: "Are Redevelopment and Eminent Domain Really Four-letter Words?" To make reservations, go to the Web page at www.llnlretirees.org.

The **travel group** meets the 4th Tuesday of each month January through June at 2 p.m. in the Livermore Police community room. The Feb. 27 topic is: "Red Rocks, Redwoods, and Other Scenic Wonders of the Southwest," by Bob and Juanita Berlo. The March 27 meeting topic is: "From Alexandria to Aswan." by Barbara Mallon.

Send any input to Jane or Gus Olson. E-mail: AugustO@aol.com or JaneRubert@aol.com. Phone: (925) 443-4349, address: 493 Jovce St., Livermore, CA 94550.

PEOPLE NEWS

IN MEMORIAM

Michael Thomson

Michael "Mikey" Thomson, a lifelong resident of Manteca, died on Jan. 6. Known to friends and family as

"Mikey T." he worked as a custodian for IAP Services at the Lab for the past 2 years. Thomson graduated from Sierra High School in 1999, where he participated in tennis, football, wrestling and was a four-year

member of the band. He worked at the

Marketplace 10 Movie Theatre for six years before working at the Lab. Thomson was well-liked by co-workers and friends. Many Lab employees have shared their thoughts about how he touched their lives. Cathy Smith, his supervisor, said, "Michael was someone you loved as soon as you met him; he had a light

and joy about him. He was not afraid of work. He was everything you could ask for in an employee."

NEWSLINE 7

Thomson is survived by his parents, Jack and Paula Thomson of Manteca: brothers, John Thomson of Manteca, Scott Thomson of Manteca and Travis Thomson of Manteca; niece, Rebecca Thomson of Manteca; grandmother, Margaret (Marge) Thomson of Manteca; 22 aunts and uncles; 28 cousins and many friends.

Donations may be sent to the Mikey Thomson Memorial Scholarship Fund, c/o Delta National Bank, 611 N. Main St., Manteca, CA 95336 or Knights of Columbus, St. Anthony's Council #10693, P.O. Box 807, Manteca, CA 95336.

Wayne D. Ruhter

Wayne D. Ruhter, whose Lab career spanned more than 30 years before his retirement in June 2006, died Oct. 1 after a long battle with cancer. He was 60.

Ruhter who lived in Walnut Creek was born April 26, 1946 in Austin, Minn. He graduated from St. Olaf College, Northfield, Minn. in 1968 with a bachelor's degree in physics and mathematics. He entered military service in 1969 and was assigned to the Nuclear Research Lab at McClellan Air Force Base in Sacramento. Following Air Force service, he was granted a Hertz Foundation Fellowship and completed his doctorate degree in 1977 at the UC Davis Department of Applied Science

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2006 Ford 4.0 Liter XLT

Supercab 2D Ranger 4WD

\$19200 OBO. 209-535-3809

72 chevy stepside. 1972 Chevrolet c-10 stepside 350 at

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(DAS).

Ruhter worked in the Lab's Nuclear Chemistry Division while a DAS doctoral student and entered full-time employment after receiving his degree. His primary focus was on problems in domestic and international nuclear safeguards and security. He worked closely with the International Atomic Energy Agency and Euratom Safeguards.

Wayne is survived by his former wife, Penny; friend Karen Seuss; brother and sister-in-law David and Angie Ruhter; brother Gary Ruhter; and sister and brother-in-law Natalie and Curt Larsen. Donations in Ruhter's memory may be made to the Kaiser Walnut Creek Hospice Program.

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call. 925 371 8373

925-443-7422

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Archery Hunter looking for property to hunt on ir

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Mountain House, separate private entrance, \$800 per nonth includes util

deposit. 209-835-1012 Room for rent. Liver home, in coed 4 bd/2ba home Approx 10 minutes from Lab on west side. No smoking or utilities. Call 373-6813.

Furnished room/private bat or rent in Livermore. 925-443-6160

TRAILERS

2001 alumascape. 2001 alumascape by Holiday Rambler 29 RLT 5th wheel \$15,995, 925-550-1886

TRUCKS 01 F250 Diesel Crew Cab Ford E250 Crew Cab 2x4

7.3 79K. Seats 6 adults. 19,300.00, obo. Call 925

525-3578. 1987 Mazda B2600 Cab-Plus 1998 leep Wrangler - 38K

Miles/Lifted (pic). - 2 DR Sport

Utility. \$11,500 or Best Offer.

condition. 925-735-6002 2001 Dodge Ram SLT 2500 speed manual transi 23 900 OBO 209-743-5794

1999 Ford Truck, 99 ford

V6,cab+,extras,top notch

GMC Sierra Extended Cab. Dark blue extended cab 4X2, \$7500.00 or best offer Pickup Dump Bed, Angle iron

373-3429

frame pickup dump bed with electric wench. 209-612-023

VACATION RENTALS

Arnold Cabin, Cozy mountain cabin with 4 bedr, 2 bath. 20 miles from Bear Valley Ski Resort. 925-245-1114

Cabin near Dodge Ridge Cabin available near Dodge Ridge skiing. 3 bdrm/2 bath, fireplace w/wood, microwave \$225/wknd. 925-449-5513 Condo rental/Sloana Beach/ Del Mar. Oceanfront condo, deluxe 2br., 2 1/2 ba., fully

jacuzzi, gated 925-443-2271

equiped, tennis, pool

Cabinetmaker Wanted-

Santa Cruz Beach House Soooo cute beach house nea boat harbor in Santa Cruz 2 bedr, 2 bath, spa, fully load kitchen. 925-245-1114 SOUTH LAKE TAHOE CHALET

3 Bedroom 2 Bath Chalet, nicely furnished, all amenities 209-599-4644 Wanted - Cardboard Packing Boxes. (925-964-0534) if ou have boxes in decent WANTED Wanted: snow boots for kids

kids' snow boots, two pair, size 5. 925-449-7525 Experienced cabinetmaker wit references. Needed to build a Wanted-Snowboard. Looking cap on an interior adobe brick or used 156cm to 160cm

> Wheelchair to Borrow Want to borrow a wheelchair April 11-15 to be used on a trip to

925 443-8889 board. Bindings not required. 209-838-0304 Electric Roto Tiller, Electric roto tiller smaller size for a small garden area. 925-245-1414

eim 209-576-7560

Newsline

Newsline editor: Don Johnston, 3-4902 Contributing writers: Bob Hirschfeld, 2-2379: Linda Lucchetti, 2-5815; Charles Osolin, 2-8367; David Schwoegler 2-6900; Anne M. Stark, 2-9799; Stephen Wampler, 3-3107.

For an extended list of Lab beats and contacts, see http://

www.llnl.gov/pao/contact/

Newsline is published bi-weekly by the Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for

Photographer: Jacqueline McBride Designers: Julie Korhummel, 2-9709; Kathleen Smith, 3-4769 Distribution: Mail Services at LLNL

Laboratory employees and retirees

Public Affairs Office: L-797 (Trailer 6527), LLNL, P.O. Box 808, Livermore, CA 94551-0808 Telephone: (925) 422-4599; Fax: (925) 422-9291 e-mail: newsline@llnl.gov or newsor Web site: http://www.llnl.gov/pao/

8 NEWSLINE February 2, 2007

SCIENCE NEWS

Laboratory's Health Services Department seeks re-accreditation

The Health Services Department (HSD) will be the subject of a re-accreditation survey by the Accreditation Association for Ambulatory Health Care, Inc. (AAAHC). This is the third review for Health Services, following successful accreditation and re-accreditation reviews in 2001 and 2004.

The survey will take place Feb. 26-27 and will be used to evaluate Health Services' continued compliance with AAAHC standards and to determine if accreditation should be continued.

HSD received its first AAAHC accreditation in 2001, demonstrating its commitment to provide patients with high-quality health care services. HSD voluntarily seeks re-accreditation as a means to continue to maintain and improve the delivery of quality health care. Health Services received the highest level of accreditation in both 2001 and 2004.

The AAAHC, founded in 1979, is a national, non-profit accrediting body whose purpose is to promote the provision of quality health care services in the ambulatory care environment through accreditation. To date, more than 2,700 ambulatory health care organizations are AAAHC-accredited. Accreditation may be awarded for six months, one year or three years. The accreditation process involves self-assessment by the organization, as well as a thorough review by the Accreditation Association's expert surveyors, who themselves have extensive experience in the ambulatory health care environment.

The Certificate of Accreditation is a symbol that an organization is committed to providing high-quality health care and that it has demonstrated that commitment by measuring up to the Accreditation

Association's high standards. AAAHC has reviewed a number of DOE/NNSA contractor occupational medicine programs. Sandia/New Mexico, Sandia/California, LBNL and LANL have also received three-year accreditations.

As part of the accreditation process, LLNL workers are invited to provide any pertinent information to AAAHC. They may request a presentation with AAAHC surveyors, or may communicate in writing or by telephone to AAAHC. Requests for presentations must be made by Feb. 12 to allow time for scheduling. Information may be submitted to the Accreditation Association for Ambulatory Health Care Inc., 5250 Old Orchard Road, Suite 200, Skokie, IL 60077, or call 847-853-6060 or fax 847-853-9028.

Expanding Your Horizons conference set for this month

"Dream, Imagine, Explore," is the theme of this year's "Tri-Valley Expanding Your Horizons (EYH) in Science and Mathematics" conference, celebrating its 28th year on Saturday, Feb. 24, at the AT&T Administrative Center in San Ramon.

The annual conference for girls in grades 6-12 from Dublin, Livermore, Pleasanton, Sunol and San Ramon school districts is sponsored by LLNL and Sandia National Laboratories. The conference will feature exciting hands-on workshops, a special activity presented by the Oakland Zoo and a career fair to encourage girls' interest in math and science and provide positive female career role models.

Kristen Stivers, a biomedical scientist in the Lab's Biosciences and Biotechnology Division, knows first-hand the impact that EYH can have on girls. Only a decade ago, she attended the conference in San Ramon while a high school student. At that time she was considering a career in medicine. Coincidentally, one

of the EYH workshop leaders had been her doctor at Kaiser. She helped Stivers see the connection between medicine and science.

"EYH helped me view women in science as real and approachable. It's extremely important for girls to have role models not only during their middle school years, but especially their high school years when they are choosing a career," Stivers said.

Stivers plans to conduct a workshop at the EYH conference. "I am happy to serve as a role model for young women. I want to tell them that while they may obtain a degree in a particular science, or in math or engineering, they are not limited to careers only in certain fields. Studying math and science are the keys that will open many doors."

For more information about the EYH conference or to sign up to volunteer the day of the conference, go to the Web at http://www.llnl.gov/eyh/tv_eyh.html or call (925) 422-2453.



Girls worked in teams and pooled their computer skills to build, program and run a robot during an EYH workshop held last year.

February is Black History Month

In honor of Black History Month, the Association of Black Laboratory Employees (ABLE) invites all Lab employees to participate in the following activities:

Valentine's Day Scholarship Fundraiser – Wednesday, Feb. 14

ABLE will hold their annual Valentine's Day Scholarship Fundraiser. For a \$13 donation, you will receive (one) stuffed animal, (one) 18 inch Valentine's Day mylar balloon and (one) See's chocolate truffle. Orders must be placed by Friday, Feb. 9. Pickup is Wednesday, Feb. 14, from 11 a.m.-1:30 p.m., Bldg. 571, room 2003. For more information, call the Work-Life Center, 2-9543.

3rd Annual African History Bowl, Preliminary Rounds – Thursday, Feb. 15 and 22

Noon-1 p.m., Bldg. 543 auditorium and Bldg. 453 auditorium. Join the excitement of the "battle of the buzzers" as the African History Bowl marks its third year. Root for your favorite directorate when teams compete in the preliminary rounds for a spot in the final round. The final round is scheduled for Tuesday, Feb. 27, from noon-1 p.m., in the Bldg. 123 auditorium. The event is sponsored by ABLE and the Work-Life Center. For more information, contact Hanif Nassor-Covington, 3-5487.

Guest speaker - to be announced

A special presentation to commemorate Black History Month is planned for Feb. 21. Look for more details in *NewsOnLine*.

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